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TECH CENTER 1600/2900



1600

## RAW SEQUENCE LISTING

DATE: 04/22/2002

PATENT APPLICATION: US/09/648,692B

TIME: 11:21:00

Input Set : A:\17311SEQLIST1-4-02.TXT

Output Set: N:\CRF3\04222002\I648692B.raw

p.6

ENTERED

```

4 <110> APPLICANT: Dolly, James Oliver
5      Li, Yan
6      Chan, C.K.
7      Aoki, Kei Roger
9 <120> TITLE OF INVENTION: Activatable Recombinant Neurotoxins
12 <130> FILE REFERENCE: 17311(BO)
14 <140> CURRENT APPLICATION NUMBER: 09/648,692B
15 <141> CURRENT FILING DATE: 2000-08-25
17 <150> PRIOR APPLICATION NUMBER: 60/150,710
18 <151> PRIOR FILING DATE: 1999-08-25
20 <160> NUMBER OF SEQ ID NOS: 24
22 <170> SOFTWARE: FastSEQ for Windows Version 3.0
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 44
26 <212> TYPE: DNA
27 <213> ORGANISM: Artificial Sequence
29 <220> FEATURE:
30 <223> OTHER INFORMATION: PCR primer
32 <400> SEQUENCE: 1
33   gactggtgga cagcaagtcg accggaagct ttacgacgat gacg           44
35 <210> SEQ ID NO: 2
36 <211> LENGTH: 44
37 <212> TYPE: DNA
38 <213> ORGANISM: Artificial Sequence
40 <220> FEATURE:
41 <223> OTHER INFORMATION: PCR primer
43 <400> SEQUENCE: 2
44   cgtcatcgtc gtaaagcttc cggtcgactt gctgtccacc agtc           44
46 <210> SEQ ID NO: 3
47 <211> LENGTH: 30
48 <212> TYPE: DNA
49 <213> ORGANISM: Artificial Sequence
51 <220> FEATURE:
52 <223> OTHER INFORMATION: PCR primer
54 <400> SEQUENCE: 3
55   aatagatcta gatcattaac agatttagga           30
57 <210> SEQ ID NO: 4
58 <211> LENGTH: 27
59 <212> TYPE: DNA
60 <213> ORGANISM: Artificial Sequence
62 <220> FEATURE:
63 <223> OTHER INFORMATION: PCR primer
65 <400> SEQUENCE: 4

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```

66  ttctaaagat ctatacattt gataact                                27
68 <210> SEQ ID NO: 5
69 <211> LENGTH: 27
70 <212> TYPE: DNA
71 <213> ORGANISM: Artificial Sequence
73 <220> FEATURE:
74 <223> OTHER INFORMATION: PCR primer
76 <400> SEQUENCE: 5
77  atgtatagat ctttagaata tcaagta                                27
79 <210> SEQ ID NO: 6
80 <211> LENGTH: 45
81 <212> TYPE: DNA
82 <213> ORGANISM: Artificial Sequence
84 <220> FEATURE:
85 <223> OTHER INFORMATION: PCR primer
87 <400> SEQUENCE: 6
88  atcgataagc ttttatcagt cgacccaaca atccagattt ttaga          45
90 <210> SEQ ID NO: 7
91 <211> LENGTH: 65
92 <212> TYPE: PRT
93 <213> ORGANISM: Artificial Sequence
95 <220> FEATURE:
96 <223> OTHER INFORMATION: Engineered Intrachain loop region for C. tetani
97  toxin
99 <400> SEQUENCE: 7
100 Ser Lys Leu Ile Gly Leu Cys Lys Lys Ile Ile Pro Pro Thr Asn Ile
101 1      5      10      15
102 Arg Glu Asn Leu Tyr Asn Arg Thr Ala Gly Glu Lys Leu Tyr Asp Asp
103      20      25      30
104 Asp Asp Lys Asp Arg Trp Gly Ser Ser Arg Ser Leu Thr Asp Leu Gly
105      35      40      45
106 Gly Glu Leu Cys Ile Lys Asn Glu Asp Leu Thr Phe Ile Ala Glu Lys
107 50      55      60
108 Asn
109 65
111 <210> SEQ ID NO: 8
112 <211> LENGTH: 36
113 <212> TYPE: DNA
114 <213> ORGANISM: Artificial Sequence
116 <220> FEATURE:
117 <223> OTHER INFORMATION: PCR primer
119 <400> SEQUENCE: 8
120 aatagaactg caggagaaaa gctttacgac gatgac                    36
122 <210> SEQ ID NO: 9
123 <211> LENGTH: 36
124 <212> TYPE: DNA
125 <213> ORGANISM: Artificial Sequence
127 <220> FEATURE:
128 <223> OTHER INFORMATION: PCR primer

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```

130 <400> SEQUENCE: 9
131 gtcacgtcgt taaagctttt ctctgcagc tctatt 36
133 <210> SEQ ID NO: 10
134 <211> LENGTH: 4017
135 <212> TYPE: DNA
136 <213> ORGANISM: Clostridium botulinum
138 <400> SEQUENCE: 10
139 gaattcaagt agtagataat aaaaataatg ccacagattt ttattattaa taatgatata 60
140 tttatctcta actgttttaac ttttaacttat aacaatgtaa atatatattt gtctataaaa 120
141 aatcaagatt acaattgggt tatatgtgat cttaatcatg atataccaaa aaagtcatat 180
142 ctatggatat taaaaaatat ataaatttaa aattaggaga tgctgtatat gccaaaaatt 240
143 aatagtttta attataatga tcctgttaat gatagaacaa ttttatatat taaaccaggc 300
144 ggttgtcaag aattttataa atcatttaat attatgaaaa atatttggat aattccagag 360
145 agaaatgtaa ttggtacaac cccccaagat tttcatccgc ctacttcatt aaaaaatgga 420
146 gatagtagtt attatgacct taattattta caaagtgatg aagaaaagga tagattttta 480
147 aaaatagtca caaaaatatt taatagaata aataataatc tttcaggagg gattttatta 540
148 gaagaactgt caaaagctaa tccatattta gggaaatgata atactccaga taatcaattc 600
149 catattgggt atgcatcagc agttgagatt aaattctcaa atggtagcca agacatacta 660
150 ttacctaatg ttattataat gggagcagag cctgatttat ttgaaactaa cagttccaat 720
151 atttctctaa gaaataatta tatgccaagc aatcacggtt ttggatcaat agctatagta 780
152 acattctcac ctgaatatcc ttttagattt aatgataatt gtatgaatga atttattcaa 840
153 gatcctgctc ttacattaat gcatgaatta atacattcat tacatggact atatggggct 900
154 aaagggatta ctacaaagta tactataaca caaaaacaaa atccccta at acaaatata 960
155 agaggtaaca atattgaaga attcttaact tttggaggta ctgattttaa cattattact 1020
156 agtgctcagt ccaatgatat ctataactaa ctcttagctg attataaaaa aatagcgtct 1080
157 aaacttagca aagtacaagt atctaataca ctacttaatc cttataaaga tgtttttgaa 1140
158 gcaaagtatg gattagataa agatgctagc ggaatttatt cggtaaatat aaacaaattt 1200
159 aatgatattt ttaaaaaatt atacagcttt acggaatttg atttacgaac taaatttcaa 1260
160 gttaaatgta ggcaaaactta tattggacag tataaatact tcaaaacttt aaacttgta 1320
161 aatgattcta tttataatat atcagaaggc tataatataa ataattttaa ggtaaatttt 1380
162 agaggacaga atgcaaattt aaatcctaga attattacac caattacagg tagaggacta 1440
163 gtaaaaaaaaa tcattagatt ttgtaaaaat attgtttctg taaaaggcat aaggaaatca 1500
164 atatgtatcg aaataaataa tgggtagtta ttttttgttg cttccgagaa tagttataat 1560
165 gatgataata taaatactcc taaagaaatt gacgatacag taacttcaaa taataattat 1620
166 gaaaatgatt tagatcaggt tatttttaaat ttttaatagt aatcagcacc tggactttca 1680
167 gatgaaaaat taaatttaac tatccaaaat gatgcttata taccaaaata tgattcta at 1740
168 ggaacaagtg atatagaaca acatgatgtt aatgaactta atgtattttt ctatttagat 1800
169 gcacagaaag tgcccgaagg tgaataaat gtcaatctca cctcttcaat tgatacagca 1860
170 ttattagaac aacctaaaat atatacattt ttttcatcag aatttattaa taatgtcaat 1920
171 aaacctgtgc aagcagcatt atttgtgaagc tggatacaac aagtgttagt agattttact 1980
172 actgaagcta accaaaaaag tactgttgat aaaattgcag atatttctat agttgttcca 2040
173 tatatagggtc ttgcttttaa tataggaaat gaagcacaaa aaggaaattt taaagatgca 2100
174 cttgaattat taggagcagg tattttatta gaatttgaac ccgagctttt aattcctaca 2160
175 attttagtat tcacgataaa atctttttta ggttcatctg ataataaaaa taaagttatt 2220
176 aaagcaataa ataattgcatt gaaagaaaga gatgaaaaat ggaaagaagt atatagtttt 2280
177 atagtatcga attggatgac taaaattaat acacaattta ataaaagaaa agaacaaatg 2340
178 tatcaagctt tacaaaatca agtaaatgca attaaaacaa taatagaatc taagtataat 2400
179 agttatactt tagaggaaaa aaatgagctt acaataaat atgatattaa gcaaatagaa 2460
180 aatgaactta atcaaaagg tttctatagca atgaataata tagacagggt ctttaactgaa 2520

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```

181 agttctatat cctatttaaat gaaaataata aatgaagtaa aaattaataa attaagagaa 2580
182 tatgatgaga atgtcaaaac gtattttattg aattatatta tacaacatgg atcaatcttg 2640
183 ggagagagtc agcaagaact aaattctatg gtaactgata ccctaaataa tagtattcct 2700
184 tttaagcttt cttcttatac agatgataaa attttaattt catattttta taaattcttt 2760
185 aagagaatta aaagtagttc agtttttaaat atgagatata aaaatgataa atacgtagat 2820
186 acttcaggat atgattcaaa tataaatatt aatggagatg tatataaata tccaactaat 2880
187 aaaaatcaat ttggaatata taatgataaa cttagtgaag ttaatatatc tcaaatgat 2940
188 tacattatat atgataataa atataaaaat tttagtatta gtttttggtt aagaattcct 3000
189 aactatgata ataagatagt aaatgttaat aatgaatata ctataataaa ttgtatgaga 3060
190 gataataatt caggatggaa agtatctctt aatcataatg aaataatttg gacattcgaa 3120
191 gataatcgag gaattaatca aaaattagca tttaactatg gtaacgcaaa tggattttct 3180
192 gattatataa ataagtggat ttttgtaact ataactaatg atagattagg agattctaaa 3240
193 ctttatatta atggaaattt aatagatcaa aaatcaattt taaatttagg taatattcat 3300
194 gttagtgaca atatatattt taaaatagtt aattgtagtt atacaagata tattggtatt 3360
195 agatatttta atatttttga taaagaatta gatgaaacag aaattcaaac tttatatagc 3420
196 aatgaaccta atacaaatat ttggaaggat ttttggggaa attatttgct ttatgacaaa 3480
197 gaatactatt tattaatgtt gttaaaacca aataacttta ttgataggag aaaagattct 3540
198 actttaagca ttaataatat aagaagcact attcttttag ctaatagatt atatagtgga 3600
199 ataaaagtta aaatacaaag agttaataat agtagtacta acgataatct tgttagaaaag 3660
200 aatgatcagg tatatattaa ttttgtagcc agcaaaaactc acttatttcc attatatgct 3720
201 gatacagcta ccacaaataa agagaaaaca ataaaaatat catcatctgg caatagattt 3780
202 aatcaagtag tagttatgaa ttcagtagga aattgtacaa tgaattttta aaataataat 3840
203 ggaaataata ttgggttggt aggtttcaag gcagatactg tcgttgctag tacttggtat 3900
204 tatacacata tgagagatca tacaacagc aatggatgtt tttggaactt ttttctgaa 3960
205 gaacatggat ggcaagaaaa ataaaaatta gattaaacgg ctaaagtcac aaattcc 4017
207 <210> SEQ ID NO: 11
208 <211> LENGTH: 37
209 <212> TYPE: DNA
210 <213> ORGANISM: Artificial Sequence
212 <220> FEATURE:
213 <223> OTHER INFORMATION: PCR primer
215 <400> SEQUENCE: 11
216 cccgcatccc caaaaattaa tagttttaat tataatg 37
218 <210> SEQ ID NO: 12
219 <211> LENGTH: 36
220 <212> TYPE: DNA
221 <213> ORGANISM: PCR primer
223 <400> SEQUENCE: 12
224 cccctgcagt catttttctt gccatccatg ttcttc 36
226 <210> SEQ ID NO: 13
227 <211> LENGTH: 31
228 <212> TYPE: DNA
229 <213> ORGANISM: Artificial Sequence
231 <220> FEATURE:
232 <223> OTHER INFORMATION: PCR primer
234 <400> SEQUENCE: 13
235 cagttaatac attcattaca tggactatat g 31
237 <210> SEQ ID NO: 14
238 <211> LENGTH: 26

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239 <212> TYPE: DNA
240 <213> ORGANISM: Artificial Sequence
242 <220> FEATURE:
243 <223> OTHER INFORMATION: PCR primer
245 <400> SEQUENCE: 14
246 atgcattaat gtaagagcag gatctt 26
248 <210> SEQ ID NO: 15
249 <211> LENGTH: 5
250 <212> TYPE: PRT
251 <213> ORGANISM: Unknown
253 <220> FEATURE:
254 <223> OTHER INFORMATION: protease cleavage site
256 <400> SEQUENCE: 15
257 Asp Asp Asp Asp Lys
258 1 5
260 <210> SEQ ID NO: 16
261 <211> LENGTH: 8
262 <212> TYPE: PRT
263 <213> ORGANISM: Unknown
265 <220> FEATURE:
266 <223> OTHER INFORMATION: Protease cleavage site
268 <400> SEQUENCE: 16
269 Leu Glu Val Leu Phe Gln Gly Pro
270 1 5
272 <210> SEQ ID NO: 17
273 <211> LENGTH: 5
274 <212> TYPE: PRT
275 <213> ORGANISM: Clostridium species
277 <220> FEATURE:
278 <221> NAME/KEY: ZN_FING
279 <222> LOCATION: (1)...(5)
280 <223> OTHER INFORMATION: Xaa=any amino acid
282 <400> SEQUENCE: 17
W--> 283 His Glu Xaa Xaa His
284 1 5
286 <210> SEQ ID NO: 18
287 <211> LENGTH: 51
288 <212> TYPE: DNA
289 <213> ORGANISM: Artificial Sequence
291 <220> FEATURE:
292 <223> OTHER INFORMATION: Linker
294 <400> SEQUENCE: 18
295 ggagaaaagc tttacgacga tgacgataag gatcgatggg gtcctctag a 51
297 <210> SEQ ID NO: 19
298 <211> LENGTH: 22
299 <212> TYPE: PRT
300 <213> ORGANISM: Artificial Sequence
302 <220> FEATURE:
303 <223> OTHER INFORMATION: Linker

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RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/09/648,692B

DATE: 04/22/2002  
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Input Set : A:\17311SEQLIST1-4-02.TXT  
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:17; Xaa Pos. 3,4  
Seq#:22; Xaa Pos. 2,3  
Seq#:23; Xaa Pos. 2,3,5